DRAFT FOR PUBLIC COMMENT

West Coast Governors' Global Warming Initiative

Codes and Standards

Working Group 4
April 13, 2004

Commitment Statement

The three states are committed to reduce greenhouse gas emissions by improving appliance and building code energy efficiency standards.

Background

Minimum standards are the least-cost way for states to insure cost effective improvement of the energy efficiency of buildings and the equipment and appliances used in buildings. All three states have a long history of being leaders in the implementation of building energy efficiency standards and have encouraged the adoption of appliance efficiency standards.

We power our businesses and households in the west coast states with fossil fuels and electricity. Our electricity is generated primarily with natural gas, coal, hydropower and oil. Every improvement to building or equipment energy efficiency standards means a reduction in burning fossil fuels and carbon dioxide ("CO_2") savings. For example, the 2002 Washington residential energy code upgrades for natural gas heated households alone will have averted 192,000 metric tonnes of CO_2 emissions 15 years after the code has been in place. The potential energy savings and greenhouse gas reductions from this part of the West Coast Governors' Global Warming Initiative are large.

Building energy codes impact the energy consumption of new buildings and alterations to existing buildings, including the energy-using equipment installed in them. Appliance efficiency standards impact the energy consumption of all appliances/equipment that are sold, whether or not they are permanently installed in buildings and are subject to the building codes.

Builders and manufacturers of equipment make decisions about incorporating energy efficiency measures, but they do not pay the energy bills. So, they have little reason to invest in efficiency upgrades for which their customers receive the returns. This is a classic market failure that codes and standards are ideally suited to address.

Codes and standards also have other advantages:

- They drive down the market cost of energy efficiency improvements by building energy efficiency into the base model. Economies of scale cause energy efficiency improvements to be provided at dramatically lower cost than when the market only supplies the energy efficiency in premium models.

- Energy efficiency is the least costly when built into the building or product at the outset. Trying to achieve the same efficiency later through retrofit is almost always much more expensive, if not impossible. Inefficiency is a particular burden on society for buildings and products that have long lives.
- Energy efficiency delivered through codes and standards is substantially less expensive than the cost of building an equivalent amount of new generation.

While voluntary incentive programs, such as those run by utilities, also deliver significant savings, codes and standards deliver savings at lower cost to society. Furthermore, public program resources are better spent on emerging measures and technologies rather than those that have been demonstrated to be ready for inclusion in codes and standards.

It should be noted that the savings from codes and standards would likely be greater if the economic consequences of global climate change were explicitly considered in cost effectiveness tests. This suggests a possible additional, longer term action item – that of reinventing the assessment methods to take into account such things as the possibility of continued high natural gas prices and the likelihood of national CO_2 regulation and its impacts on fuel and electricity costs.

Federal Appliance Standards and National Consensus Building Energy Codes
Federal law requires the U.S. Department of Energy to establish federal appliance efficiency standards for specific appliances and equipment (referred to as "covered" products). It is strongly in the interests of the states that the federal standards are as effective as possible. However, many types of appliances and equipment are outside the scope of the federal standards and adoption of standards for these "non-covered" products are within the authority of the states. The three states have had substantial experience and ongoing interest in advocating that federal standards maximize the benefit to the states and that states' rights for implementation of standards and adoption of standards for non-covered appliances are maintained.

Federal law also requires that states adopt building energy codes and benchmark those codes to national consensus standards.[1] The three states are among the leading states in the U.S. for having exemplary state energy codes that exceed these national standards. All three states have well-established building energy codes processes that consider upgrades every three years.

Status of State Appliance Efficiency Standards and Building Energy Codes
California has recently completed two updates to its Building Energy Efficiency Standards in response to legislation to address the California electricity crisis. Emergency standards were adopted in 2001 and additional standards were adopted in November 2003. California is also planning for the next update in 2007. California's standards are kept substantially more stringent than national consensus standards.

[1] States are required to adopt energy codes for nonresidential buildings that meet or exceed the American Society of Heating, Refrigerating and Air Conditioning Engineers Standard 90.1 and to compare their energy codes for residential buildings to determine if they meet or exceed the International Energy Conservation Code.

The California legislature in 1975 mandated that the California Energy Commission adopt appliance efficiency standards by regulation, and the Energy Commission has maintained a vigorous appliance standards program since. This is primarily aimed at appliances that are "not covered" by federal appliance standards. In 2002 the Energy Commission adopted standards for 10 appliance types. In 2004 the Commission is planning a proceeding to adopt standards for about 20 additional appliances types.

The Energy Commission also recently adopted standards for residential and commercial air conditioners and for the water consumption of residential clothes washers, which are covered products. For the Commission to be able to implement these standards, a waiver from federal pre-emption will have to be approved by the U.S. Department of Energy. California also has an extensive database that has been maintained over the past 25 years of manufacturer-certified efficiency ratings for both covered and non-covered appliances and equipment.

Recently, manufacturer trade associations challenged in federal court the Commission's authority to require certification of covered products. The Commission is defending a state's rights to require such information. At this point the requirement for certification of covered products is enjoined as the case is being tried. The Commission continues to maintain its certification program and database for non-covered appliances.

Oregon’s building energy code process is in the first year of its normal 3-year cycle. The most recent upgrade of the residential code went into effect in April 2003, with a limited, but important, set of improvements to the 1992 code. The commercial energy code upgrade, a major one, went into effect in October 2003. The stringency of both codes is now comfortably beyond that of national standards. Oregon has no recent history of establishing appliance and equipment standards outside of the building energy codes. It currently has no efficiency certification and compliance-monitoring infrastructure for implementing such standards.

The Washington State Building Code Council conducts a public process to review and adopt code modifications. The adopted package of amendments is presented to the legislature. If the legislature does not reject the code amendments, they are codified. In early 2002, the residential energy code upgrade was approved. Principal energy savings were in homes heated with natural gas, propane and heat pumps. In November 2003, an upgrade package for commercial buildings failed to garner approval by the Building Code Council. Washington currently has no appliance and equipment standards outside of building energy codes, nor is there any established efficiency certification and compliance-monitoring infrastructure.

Implementation Options

The following implementation options are available:

a) Several state legislatures around the country are currently considering enactment of specific appliance efficiency standards for non-covered products. Oregon and Washington also could enact such legislation. The legislation should anticipate the need to have manufacturers certify efficiency and for the maintenance of a database of certified products. It's possible that Washington and Oregon could use California's database for this purpose. Also, appliance standards adoption should anticipate a need for effort on the part of the state to insure good compliance with the standards.

b) The building energy codes in all three states have the potential for further economically beneficial upgrades, including both efficiency standards for appliances that are installed in buildings, and building design and construction standards. This would not require further legislative action.

c) All three states should continue to support federal appliance efficiency standards that are of maximum benefit to the states and region.

Pros and Cons of the Options

Pros:

1. Improved standards would both reduce CO_2 emissions and keep more money circulating in the west coast economies.
2. There are still some very significant savings to be had from codes and standards upgrades.
3. There are many data already available to use in evaluating a wide range of new product standards. Much of this has been generated through the ongoing Energy Commission standards processes. In these cases, data would simply need to be adapted to Pacific Northwest climate and markets to allow Oregon and Washington to join California in implementing identical or similar regulations. In other cases, national consortia have collaborated with utilities and other organizations to assess the cost and savings potential for several specific product types.
4. California has a long history of rulemaking in this area, with many recent successes. The Energy Commission also maintains a product efficiency certification process and publicly available database and monitors compliance with standards.
5. Recent standards implemented by Maryland (overriding the governor's veto) and proposed in as many as ten other states are important energy and environmental efforts. The willingness of so many states to become active on standards is probably also a response to the unfortunate absence of visible progress on appliance efficiency standards at the federal level.
6. All three west coast states, and many others around the country, agree on what the opportunities are for standards for specific products.
7. There are very few, if any, adverse effects of any kind associated with standards set at the levels most likely at today's reading. All would have to pass traditional cost effectiveness tests to be implemented through existing processes.

Cons:

1. Each state is at the beginning of a new building code update cycle now. The earliest upgrades through building energy codes will not be implemented until 2006, absent the executive or legislative imposition of a shortened time line.
2. Appliance standards impacting products outside the scope of building energy codes in Oregon and Washington would require enabling legislation authorizing adoption by regulation, or standards would have to be enacted legislatively. And, the legislation would have to provide a mechanism for product efficiency certification (possibly by relying on California's certification program and database) and for compliance monitoring. This would represent a policy change of some significance.

Political Considerations

The process in each state has its own challenges, and well-justified, cost-effective code changes have failed implementation in the past. Many stakeholders are wedded firmly to the status quo. Opposition to codes and standards, or upgrades to the standards, generally come from the following: 1) those who profit by selling low efficiency appliances without the need for significant additional capital investment (they risk losing market share), and 2) builders and developers who object to increased costs of construction without regard to the financial savings for the building owner. Large manufacturers of appliances that wish to produce to a national market without consideration of the special needs of the western states may be the most vocal opposition.

Support for effective appliance efficiency standards and building energy codes comes from administrators of the regional electricity system, utilities, water agencies, the environmental community, providers of energy efficiency products and services, and that portion of the building community that recognizes the importance of providing a sustainable, affordable and comfortable product and avoiding construction defect liability.

In the past adoption of appliance standards and building codes have been of interest to the press, both pro and con.

Fiscal Implications

California and Oregon would encounter little incremental cost associated with this set of actions, except for the data collection activities and the tracking of data for additional types of products (for which there is no standard at present). Washington State would need to have energy policy staff more strategically involved in the building energy code process and would likely provide a leadership role in establishing state product efficiency standards.

Possible Recommended Actions

A. Incorporate upgraded energy efficiency standards for building components within the next building code cycle.

1. Washington should seek an immediate Governor's request for reconsideration of the code package that failed in November 2003.

B. Incorporate upgraded or new efficiency standards for permitted products and appliances within the next building code cycle.

1. California should identify improvements to the Building Energy Efficiency Standards to be pursued in the next (2007) update of the building code.
2. Washington should seek in the near-term to add the following efficiency standards to the current code package for reconsideration: commercial natural gas unit heaters, dry type transformers, exit signs, and outdoor sign ballasts.
3. Longer-term, the states should share data and analyses to support one another's efforts to capture efficiency improvements in products and building technologies during each three-year code process.

C. Adopt selected appliance energy efficiency standards for products not covered by the federal government.

1. California should pursue adoption of new appliance standards in 2004.
2. California should provide information and technical assistance to Oregon and Washington in their efforts to adopt and implement standards for appliances.
3. Washington should draft legislation for the 2005 session that identifies energy efficiency standards for 3-8 products. The political strategy on a standards bill would be discussed in late fall after elections.

D. Adopt appliance energy efficiency standards for federally "covered" products.

1. California should complete and file petitions for waiver from pre-emption for California air conditioner and clothes washer (water factor) standards.
2. Collectively, as west coast states, states should continue to defend the rights of California (or any state) to require manufacturers to certify efficiency of federally covered products to the state.

E. Improve federal appliance standards.

1. California and Oregon should take the lead on working within the federal rulemaking process to improve appliance efficiency standards for products covered by the federal government. These states will identify for Washington staff critical opportunities for intervening in the federal process.

Benefits

The recommended actions will result in substantial energy, environmental, economic and other benefits. As a result of saving considerable natural gas and electricity, the recommended actions will result in avoidance of fossil fuel consumption (natural gas at the building site and natural gas and coal at electricity generation stations) and of the resultant emissions reductions due to that energy savings, including criteria pollutants and

greenhouse gas emissions. In a later update to this paper the energy savings due to these recommended actions and the resultant emissions reductions will be estimated (see placeholder language in Table 1). In addition the recommended actions will result in other benefits for different stakeholders as shown in Table 2.

Studies have shown that energy efficiency improvements in buildings improve occupant comfort, increase worker productivity, and increase property value. The value of increased worker productivity can be an order of magnitude greater than the energy bill savings. Energy bill savings in combination with increased property value result in a very high return on investment. Focused attention on proper installation of energy efficiency measures (such as through third-party verification) has substantial benefits to builders, including improved customer satisfaction, reduced callbacks, and reduced exposure to liability and litigation due to construction defects. Investments in energy efficiency will help building owners to avoid potential future energy bill price shocks and electricity system disruptions.

Placeholder language:

Table 1 Energy Savings and CO_2 Savings of Recommended Actions

Type of Standards/Code	***Energy Savings***	***CO_2 Savings***
State Building Energy Codes		
State Standards for Non-Covered Products		
California Codes for Covered Products		
State Action on Federal Appliance Standards		

Table 2. Summary of Standards Benefits to Stakeholders

Stakeholder	Benefits
1. Builders and Construction Contractors	a. Increased Customer Satisfaction b Reduced Callbacks c. Reduced Liability and Litigation for Construction Defects d. Increased Marketability of Buildings
2. Business Building Owners and Homeowners	a. Reduced Energy Bills in excess of increased mortgage cost b. Reduced Operating Cost – Increased Affordability c. Increased Profit d. Increased Comfort and Worker Productivity e. Increased Property Value f. Reduced Need for Builder Callbacks and Litigation for Construction Defects g. Reduced Exposure to Future High Energy Bills or Electricity System Disruptions
3. Energy Services Providers (Architects, Engineers, Energy Consultants, Third Party Verifiers, etc.)	a. Increased Market Value of Services b. Increased Business c. Increased Profit d. Increased Jobs e. Increased Competitiveness
4. Energy Product Manufacturers	a. Increased Market Value of Products b. Increased Business c. Increased Profit d. Increased Jobs e. Increased Competitiveness
5. Utilities	a. Demand Reductions at costs considerably lower than the cost of new generation, transmission and distribution resources b. Increased Electricity System Reliability c. Eliminated Need to fund energy efficiency rebates for measures that are in Standards
6. Energy Ratepayers	a. Reduced energy bills resulting from utility cost reductions spread to all ratepayers.
7.Society	Reduced greenhouse gas emissions.